

06/15/2010

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1214786 - R8 SDMS



Fwd: Work Plan
Craig Barnitz
to:
Joyce Ackerman
06/15/2010 04:37 PM
Hide Details
From: "Craig Barnitz" <cbarnitz@utah.gov>

To: Joyce Ackerman/R8/USEPA/US@EPA

History: This message has been replied to.

1 Attachment



3rd West Work Plan.pdf

Joyce,

Here is a copy of the Work Plan I talked about in the voicemail. The Work Plan is very basic as the geo-technical work is not Very intrusive and will likely not intrude into areas beyond the 12" cap at the site. I believe they would like to get quick feedback on this portion of the work so give me a call after you have a chance to review.

Thanks,

Craig

Craig Barnitz
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>>> Dave Roskelley <dave@rrenviro.com> 6/15/2010 3:58 PM >>>
Craig,

See attached

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MEMORANDUM

TO: Scott Greenberg – PacifiCorp
DATE: June 11, 2010
RE: 3rd West Substation Work Plan
PSI Proposal No. 22888

PacifiCorp is planning an expansion and upgrade of existing 3rd West Substation located approximately at 400 West 100 South in Salt Lake City, Utah. The existing substation is located in an environmentally sensitive area that may be contaminated with Libby Amphibole asbestos. In lieu of traditional hollow-stem auger drilling and sampling PSI is pushing three (3) cone penetration soundings and three (3) dilatometer tests to a maximum depth of 50 feet below the ground surface. Additionally, PSI plans on conducting six (6) geophysical surface arrays. PSI proposes the following work plan for safely carrying out these investigations to limit exposure to contaminated soil and cross contamination of soil.

1. Cone Penetration Soundings (CPT) and Dilatometer Testing (DMT) Equipment

The Cone Penetration Test consists of pushing a standard static cone into the subsurface soils. Dilatometer testing has a similar setup except the instead of a cone, a flat-plate dilatometer is pushed into the ground. Pictures of the rig, cone, and dilatometer are shown below.



Rig that will be on site



CPT Cone



Flat Plat Dilatometer

2. Geophysical Equipment for Refraction Microtremor (ReMi) and Resistivity

ReMi is a non destructive technique that picks up propagating waves both naturally and physically induced that can be analyzed to give a 1D subsurface profile. This geophysical technique is set up on the ground surface with geophones inserted up to two (2) inches into the ground surface. A picture of the geophone is shown below..



Geophone for ReMi

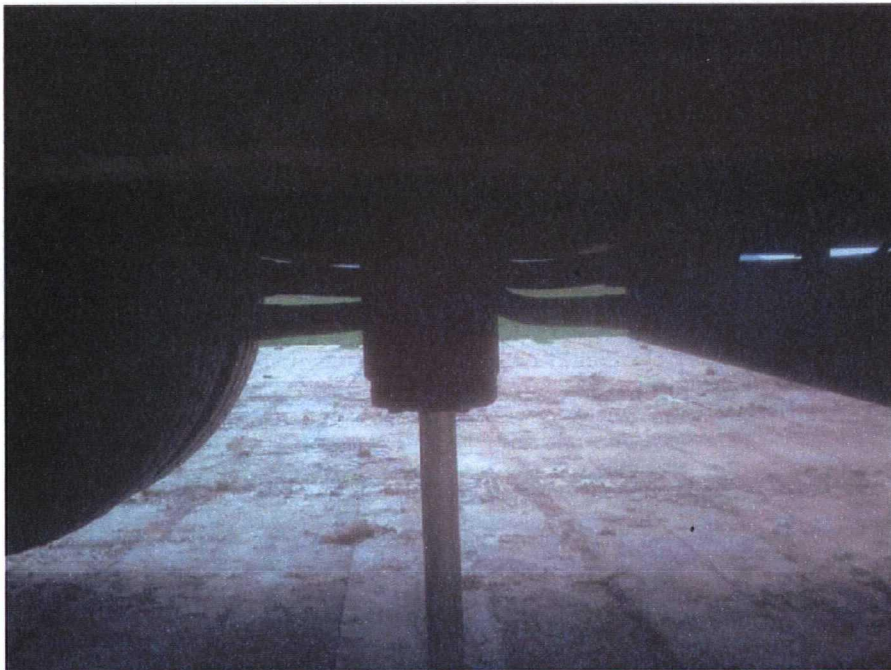
Field resistivity is a technique similar in setup to ReMi and it identifies changes in soil type. The only ground disturbance is up to 28 resistivity electrodes (spikes) which are hammered into the ground about 6 to 8 inches. A picture of the electrodes PSI will be using is shown below.



Electrode for Resistivity

3. Cone Penetration Soundings (CPT) and Dilatometer Testing (DMT) Work Plan

CPT's and Dilatometers result in very little soil disturbance unlike traditional borings. The cone and flat-plate dilatometer will be hydraulically pushed to depth. The rig contains a wiper system that cleans off the drilling rods as they are being pulled out of the ground. Shown below is the wiper system that will be used at the site along with the rods that are pushed into the ground.



Wash System and Rods

PSI will also take additional precautions for the investigation at the site and include the following.

- The full level of Personal Protection Equipment (PPE) required by PacifiCorp when inside energized substation including hard hat, safety glasses with side shields, safety toed shoes, FR upper body wear with ARC rating of 8.0 or greater, and 100% natural fiber pants.
- Disposable cleaning rags, plenty of water and misting spray bottles, and plastic bags will be on the drill rig for containment of possible asbestos. P1 or P2 respirator will be available on the rig.
- Disposal bags will be sealed with duct tape and placed into a second disposal bag and sealed again. The bags will be labeled:

CAUTION – ASBESTOS
DO NOT DAMAGE OR OPEN BAG
DO NOT INHALE DUST
CANCER AND LUNG DISEASE HAZARD

- Any asbestos debris, used rags, plastic sheeting and other asbestos waste will be placed in disposal bags that are filled at most halfway to avoid splitting. PPE and clothing will be wiped down with light spray of water.
- Drilling subcontractor will decontaminate the rods and attachments with steam in between each CPT sounding and Dilatometer readings. Rods and attachments will be steamed down prior to demobilizing from the substation.
- Each CPT and Dilatometer hole will be grouted the full depth of the hole in order to seal any possible asbestos encountered.

It is unlikely the geophones and electrodes from the geophysical testing will encounter asbestos contaminated soils, since they are inserted to a maximum depth of only 8 inches. PSI will always have the full PPE required gear along with disposable cleaning rags, plenty of water and misting spray bottles just in case. Any contaminated soil on the geophones and electrodes will be put in disposal bags and sealed with duct tape and placed into a second disposal bag and sealed again.